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10/004,249	10/25/2001	Thomas A. Sexton	873.0101.U1(US)	2115

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EXAMINER	
MERED, HABTE	
ART UNIT	**PAPER NUMBER**
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/004,249	SEXTON ET AL.	
	Examiner	Art Unit	
	Habte Mered	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _12 January 2007_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-28_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-28_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _25 October 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed on 1/12/2007 has been entered and fully considered.

2. Claims 1-28 are pending in the instant Application. Claims 21-28 are newly added claims. The independent claims are Claims 1, 7, 14, 18, and 21.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims **1,2, 4-8, and 10-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bourlas et al (US Pub. No. 2002/0119783), hereinafter referred to as Bourlas, in view of Kondo (US 5, 748, 624) and Demjanenko et al (US Pub. No. 2002/0051501), hereinafter referred to as Demjanenko.

Bourlas discloses an adaptive call admission control for use in a wireless communication system.

5. Regarding **claims 1, 14, and 18**, Bourlas discloses a method for granting system access to mobile stations, comprising: receiving a call admission request from a mobile station at the edge of a cell **(See Paragraphs 8, 9, 27 and 28; In Bourlas' system the base station receives call admission requests from any mobile in the cell it serves including mobiles located at the edge of the cell.)**; and granting system resources to the mobile station based at least in part on a bandwidth requirement of the mobile station, wherein for a mobile station having a high bandwidth requirement, the mobile

station is preferentially granted system resources, *as compared to another mobile station having a lower bandwidth requirement* **(In Paragraphs 39 and 40 Bourlas teaches that a mobile seeking a T1-type continuous data services is granted more bandwidth as opposed to a mobile seeking a TCP/IP bursty data services provided the bandwidth availability in the system and other parameters allow such a preferential allocation.)**, by being assigned a plurality of time slots per frame for forming one radio information block **(See Paragraphs 9, 30-33, 39, 45, 80-82 and Figures 2 and 4)**.

6. Regarding **claim 7**, Bourlas discloses a cellular communications system, comprising: a plurality of mobile stations located within at least one cell (See Figure 1, elements 104); a base transceiver station (BTS) for servicing the cell (See Figure 1, element 102); a base station controller (BSC) coupled to the BTS **(It is inherent for a base station 102 in Figure 1 deploying TDMA/TDD to be coupled to a Base station Controller in cellular systems such as GSM)**; and a Call Admission processor coupled to the BTS for receiving a call admission request from mobile stations located in the cell served by the BTS **(Figure 3, element 206 is a Call Admission Control Module)** shows, the processor granting cellular communications system resources to the mobile stations based at least in part on level of service required by the mobile Stations **(See Paragraphs 43-45)** and on a location of the mobile stations within the cell, wherein for a mobile station having a high bandwidth requirement that is determined to be located at the edge of the cell **(See Paragraphs 26-28)**, the mobile station is preferentially granted system resources by being assigned a plurality of time

slots per frame for forming one radio information block **(See Paragraphs 9, 30-33, 39, 45, 80-82 and Figure 4)**.

7. With respect to **claims 1, 7, 14, and 18**, Bourlas teaches that a new connection request with high quality of service requiring higher bandwidth is granted more system resources such as the portion of the frame that is allocated for the uplink and downlink **(see Paragraph 43)** and uses a precedence module to determine and guarantee if more resources can be made available to the new connection requesting higher bandwidth. **(See Paragraphs 61-64)** Bourlas however fails to expressly disclose a method where a mobile station, with a higher bandwidth requirement, requesting call admission is assigned a plurality of time slots per frame while a mobile station, with a lower bandwidth requirement, requesting call admission is assigned a single time slot.

Kondo teaches an efficient method of time slot allocation for a communication in a TDMA communication system, which allocates one or more time slots in a TDMA frame.

Kondo discloses a method where a mobile station, with a higher bandwidth requirement, requesting call admission is assigned a plurality of time slots per frame while a mobile station, with a lower bandwidth requirement, requesting call admission is assigned a single time slot. **(See Column 3:34-55 and Column 6:25-45 and See Figure 5, steps 510 and 512)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Bourlas' method to incorporate a method where a mobile station, with a higher bandwidth requirement, requesting call admission is assigned a

plurality of time slots per frame while a mobile station, with a lower bandwidth requirement, requesting call admission is assigned a single time slot. The motivation being mobile stations requiring higher bandwidth have higher transmission speed and need more time slots to transfer data in order to meet the quality service associated with the mobile stations as stated in Kondo in Column 1:58-64

8. With respect to **claims 1, 7, 14, and 18**, Bourlas teaches that various schemes of quadrature amplitude modulation (QAM) can be used but fails to expressively disclose the modulation schemes are operated with a coding technique that employs an iterative decoding technique.

Demjanenko discloses a technique for coding and decoding signals used in data transmission over wired and wireless systems that use Turbo Codes.

Demjanenko teaches a system that is operated with a coding technique that employs an iterative decoding technique. **(See Paragraph 681; Demjanenko teaches the received signal is demodulated and a decoded bit stream is produced by iteratively decoding the demodulated signal.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Bourlas' method to incorporate iterative decoding technique, the motivation being to ensure that the extra coding gained by Turbo Codes is realized.

9. Regarding **claims 2 and 8,** Bourlas teaches all aspects of the claimed invention as set forth in the rejection of claims 1 and 7 but fails to teach a method, wherein the

mobile station is operated at a rate 3/4 16-QAM mobile station at a throughput of approximately K x 59.2 kbps, where K is the number of occupied time slots in the frame.

Demjanenko teaches that a mobile station is operated at a rate 3/4 16-QAM mobile station at a throughput of approximately K x 59.2 kbps, where K is the number of occupied time slots in the frame. **(See Figures 19 and 61. See Paragraphs 289-304; Further Demjanenko discloses that in his system a maximum throughput of 6, 144 kbits can be achieved by far exceeding the Applicant's apparatus throughput. Data throughput is a function of SNR and channel characteristics (Gaussian or Raleigh) and the expected BER further constraints the system.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Bourlas' apparatus to incorporate operating mobiles at a rate ¾ 16-QAM, the motivation being to use turbo codes that outperform all previously known coding schemes regardless of the targeted channel where the extra coding gain offered by these codes can be used to save bandwidth or reduce power requirements in the link budget.

10. Regarding **claims 4 and 10,** Bourlas teaches all aspects of the claimed invention as set forth in the rejection of claims 1 and 7 but fails to teach a method, wherein the mobile station is operated at a rate 5/6 64-QAM mobile station at a throughput of approximately K x 98.667 Kbps kbps, where K is the number of occupied time slots in the frame.

Demjanenko teaches that a mobile station is operated at a rate 5/6 64-QAM mobile station at a throughput of approximately K x 98.667 kbps, where K is the number

of occupied time slots in the frame. **(See Figure 46. See Paragraphs 426-443; Further Demjanenko discloses that in his system a maximum throughput of 6, 144 kbits can be achieved by far exceeding the Applicant's apparatus throughput. Data throughput is a function of SNR and channel characteristics (Gaussian or Raleigh) and the expected BER further constraints the system.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Bourlas' apparatus to incorporate operating mobiles at a rate 5/6 64-QAM, the motivation being to use turbo codes that outperform all previously known coding schemes regardless of the targeted channel where the extra coding gain offered by these codes can be used to save bandwidth or reduce power requirements in the link budget.

11. Regarding **claims 5, 11, and 15**, Bourlas teaches all aspects of the claimed invention as set forth in the rejection of claims 1, 7, and 14 but fails to teach a method wherein the modulation format is selected from one of GMSK, 8-PSK, rectangular 16 gray coded QAM, 64 gray coded QAM, and 32 cross-QAM.

Demjanenko teaches a method wherein the modulation format is selected from one of GMSK, 8-PSK, rectangular 16 gray coded QAM, 64 gray-coded QAM, and 32 cross-QAM. **(See Paragraphs 2, 146, 349 and Figure 46)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Bourlas' apparatus to incorporate the ability to select modulation format as discussed above, the motivation being to ensure that the extra coding gained by Turbo Codes is realized.

12. Regarding **claims 6, 12, and 16**, Bourlas discloses a method wherein the radio information block comprises four TDMA frames and occupies K slots per TDMA frame, wherein the radio information block size is equal to N=464.times.K.times.throughput bits, where the throughput is equal to the number of information bits per data symbol. **(Bourlas teaches that variable number of slots can be assigned to a user terminal. See Paragraphs 9, 30-33, 39, 45, 80-82 and Figure 4. Data throughput is a function of SNR and channel characteristics (Gaussian or Raleigh) and the expected BER further constraints the system.)**

13. Regarding **claims 13 and 17**, Bourlas teaches all aspects of the claimed invention as set forth in the rejection of claims 7 and 14 but fails to teach wherein the iterative coding technique comprises a turbo code, the turbo code being implemented with two n-state identical recursive systematic convolutional encoders (13_8,15_8) that are combined in parallel through a pseudo-random bit interleaver.

Demjanenko teaches a method wherein the iterative coding technique comprises a turbo code, the turbo code being implemented with two n-state identical recursive systematic convolutional encoders that are combined in parallel through a pseudo-random bit interleaver. **(See Figure 76 and Paragraph 667)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Bourlas' apparatus to incorporate iterative decoding technique comprising turbo code, the motivation being to ensure that the extra coding gained by Turbo Codes is realized.

14. Regarding **claim 19**, Bourlas discloses a method, wherein the mobile station is located at the cell edge, and further comprising adjusting the granted system resources as the mobile station changes its location within the cell **(See Paragraphs 26-28)**, and retaining the granted system resources as the mobile station transitions to an edge of another cell. **(See Paragraphs 43-45. Bourlas also discloses any call admission request irrespective of the mobile's location will be honored as long as there is enough bandwidth to allocate for the call. See also figure 4)**

15. Regarding **claim 20**, Bourlas teaches all aspects of the claimed invention as set forth in the rejection of claim 18 but fails to teach a method wherein the iterative decoding technique uses a turbo code.

Demjanenko teaches a method wherein the iterative decoding technique uses a turbo code. **(See Paragraphs 664, 667, 674, and 681. Demjanenko discloses a turbo decoder that uses iterative decoding technique.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Bourlas' apparatus to incorporate iterative decoding technique that uses turbo code, the motivation being to ensure that the extra coding gained by Turbo Codes is realized.

16. **Claims 3 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bourlas in view of Kondo and Demjanenko as applied to claims 1 and 7 above, and further in view of Raghavan et al (US Pub. No. 2003/0134607), hereinafter referred to as Raghavan.

The combination of Bourlas, Kondo and Demjanenko, teaches all aspects of the claimed invention as set forth in the rejections of claims 1 and 7 but does not disclose a method, wherein the mobile station is operated as a rate 4/5 32-QAM mobile station at a throughput of approximately K.times.78.93 kbps, where K is the number of occupied time slots in the frame.

Raghavan teaches a multi-channel communications transceiver that uses any combination of modulation systems such as PAM and QAM.

Raghavan discloses a method, wherein the mobile station is operated as a rate 4/5 32-QAM mobile station at a throughput of approximately K.times.78.93 kbps, where K is the number of occupied time slots in the frame. **(See Paragraphs 24, 83, 85, and 114. Data throughput is a function of SNR and channel characteristics (Gaussian or Raleigh) and the expected BER further constraints the system.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Bourlas' and Demjanenko's apparatus to incorporate operating mobiles at a rate 4/5 32-QAM, the motivation being to use turbo codes that outperform all previously known coding schemes regardless of the targeted channel where the extra coding gain offered by these codes can be used to save bandwidth or reduce power requirements in the link budget.

17. **Claims 21, 22, 24, 25, 27, and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Uebayashi et al (US 6, 963, 551 B2), hereinafter referred to as Uebayashi, in view of Kondo (US 5, 748, 624) and Demjanenko et al (US Pub. No. 2002/0051501), hereinafter referred to as Demjanenko.

Uebayashi teaches a wireless system that handles call admission for high-speed as well as low-speed calls while maintaining fair access for low speed calls allots more resources per call to high-speed call requests over low-speed call requests.

18. Regarding **claim 21**, Uebayashi discloses a control unit **(Figure 4, element 412)** coupled to a wireless transceiver in a cellular communication network, comprising a resource granting unit that is responsive to receiving a call admission request **(Column 5:1-10)** from a mobile station located near a cell edge **(In Uebayashi's system the base station receives call admission requests from any mobile in the cell it serves including mobiles located at the edge of the cell as illustrated in Column 7:23-35)** to grant system resources to the mobile station based at least in part on a bandwidth requirement of the mobile station, where for a mobile station having a high bandwidth requirement the resource granting unit preferentially grants system resources, as compared to another mobile station requesting call admission and having a lower bandwidth requirement **(Column 4:1-7)**.

Uebayashi however fails to expressly disclose a method where a mobile station, with a higher bandwidth requirement, requesting call admission is assigned a plurality of time slots per frame while a mobile station, with a lower bandwidth requirement, requesting call admission is assigned a single time slot.

Kondo discloses a control unit tat uses a method where a mobile station, with a higher bandwidth requirement, requesting call admission is assigned a plurality of time slots per frame while a mobile station, with a lower bandwidth requirement, requesting

call admission is assigned a single time slot. **(See Column 3:34-55 and Column 6:25-45 and See Figure 5, steps 510 and 512)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Uebayashi's control unit to incorporate a method where a mobile station, with a higher bandwidth requirement, requesting call admission is assigned a plurality of time slots per frame while a mobile station, with a lower bandwidth requirement, requesting call admission is assigned a single time slot. The motivation being mobile stations requiring higher bandwidth have higher transmission speed and need more time slots to transfer data in order to meet the quality service associated with the mobile stations as stated in Kondo in Column 1:58-64

Uebayashi fails to disclose a control unit that is operated with a coding technique that employs an iterative decoding technique.

Demjanenko teaches a control unit that is operated with a coding technique that employs an iterative decoding technique. **(See Paragraph 681; Demjanenko teaches the received signal is demodulated and a decoded bit stream is produced by iteratively decoding the demodulated signal.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Uebayashi 's control unit to incorporate iterative decoding technique, the motivation being to ensure that the extra coding gained by Turbo Codes is realized.

19. Regarding **claim 22**, Uebayashi teaches all aspects of the claimed invention as set forth in the rejection of claim 21 but fails to teach a control unit, where the mobile

station is operated at a rate 3/4 16-QAM mobile station at a throughput of approximately K x 59.2 kbps, where K is the number of occupied time slots in the frame.

Demjanenko teaches that a mobile station is operated at a rate 3/4 16-QAM mobile station at a throughput of approximately K x 59.2 kbps, where K is the number of occupied time slots in the frame. **(See Figures 19 and 61. See Paragraphs 289-304; Further Demjanenko discloses that in his system a maximum throughput of 6, 144 kbits can be achieved by far exceeding the Applicant's apparatus throughput. Data throughput is a function of SNR and channel characteristics (Gaussian or Raleigh) and the expected BER further constraints the system.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Uebayashi's apparatus to incorporate operating mobiles at a rate ¾ 16-QAM, the motivation being to use turbo codes that outperform all previously known coding schemes regardless of the targeted channel where the extra coding gain offered by these codes can be used to save bandwidth or reduce power requirements in the link budget.

20. Regarding **claim 24**, Uebayashi teaches all aspects of the claimed invention as set forth in the rejection of claim 21 but fails to teach a control unit, wherein the mobile station is operated at a rate 5/6 64-QAM mobile station at a throughput of approximately K x 98.667 Kbps, where K is the number of occupied time slots in the frame.

Demjanenko teaches that a mobile station is operated at a rate 5/6 64-QAM mobile station at a throughput of approximately K x 98.667 kbps, where K is the number of occupied time slots in the frame. **(See Figure 46. See Paragraphs 426-443; Further**

Demjanenko discloses that in his system a maximum throughput of 6, 144 kbits can be achieved by far exceeding the Applicant's apparatus throughput. Data throughput is a function of SNR and channel characteristics (Gaussian or Raleigh) and the expected BER further constraints the system.)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Uebayashi's apparatus to incorporate operating mobiles at a rate 516 64-QAM, the motivation being to use turbo codes that outperform all previously known coding schemes regardless of the targeted channel where the extra coding gain offered by these codes can be used to save bandwidth or reduce power requirements in the link budget.

21. Regarding **claim 25**, Uebayashi teaches all aspects of the claimed invention as set forth in the rejection of claim 21 but fails to teach a control unit, wherein the modulation format is selected from one of GMSK, 8-PSK, rectangular 16 gray coded QAM, 64 gray coded QAM, and 32 cross-QAM.

Demjanenko teaches a method wherein the modulation format is selected from one of GMSK, 8-PSK, rectangular 16 gray coded QAM, 64 gray-coded QAM, and 32 cross-QAM. **(See Paragraphs 2, 146, 349 and Figure 46)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Uebayashi's apparatus to incorporate the ability to select modulation format as discussed above, the motivation being to ensure that the extra coding gained by Turbo Codes is realized.

22. Regarding **claim 27**, Uebayashi teaches all aspects of the claimed invention as set forth in the rejection of claim 21 but fails to teach a control unit, wherein the iterative coding technique comprises a turbo code, the turbo code being implemented with two n-state identical recursive systematic convolutional encoders (138,158) that are combined in parallel through a pseudo-random bit interleaver.

Demjanenko teaches a control unit wherein the iterative coding technique comprises a turbo code, the turbo code being implemented with two n-state identical recursive systematic convolutional encoders that are combined in parallel through a pseudo-random bit interleaver. **(See Figure 76 and Paragraph 667)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Uebayashi's apparatus to incorporate iterative coding technique comprising turbo code, the motivation being to ensure that the extra coding gained by Turbo Codes is realized.

23. Regarding **claim 28**, Uebayashi teaches all aspects of the claimed invention as set forth in the rejection of claim 21 but fails to teach a control unit, wherein the iterative coding technique comprises at least one parallel or serial concatenated code turbo channel coding.

Demjanenko teaches a control unit wherein the iterative coding technique comprises at least one parallel or serial concatenated code turbo channel coding. **(See Paragraph 119)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Uebayashi's apparatus to incorporate iterative coding

technique comprising at least one parallel or serial concatenated code turbo channel coding, the motivation being to ensure that the extra coding gained by Turbo Codes is realized.

24. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Uebayashi in view of Kondo and Demjanenko as applied to claim 21 above, and further in view of Raghavan et al (US Pub. No. 2003/0134607), hereinafter referred to as Raghavan.

The combination of Uebayashi, Kondo and Demjanenko, teaches all aspects of the claimed invention as set forth in the rejections of claim 21 but does not disclose a control unit, wherein the mobile station is operated as a rate 4/5 32-QAM mobile station at a throughput of approximately K.times.78.93 kbps, where K is the number of occupied time slots in the frame.

Raghavan discloses a control unit, wherein the mobile station is operated as a rate 4/5 32-QAM mobile station at a throughput of approximately K.times.78.93 kbps, where K is the number of occupied time slots in the frame. **(See Paragraphs 24, 83, 85, and 114. Data throughput is a function of SNR and channel characteristics (Gaussian or Raleigh) and the expected BER further constraints the system.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Uebayashi's, Kondo's and Demjanenko's apparatus to incorporate operating mobiles at a rate 4/5 32-QAM, the motivation being to use turbo codes that outperform all previously known coding schemes regardless of the targeted channel where the extra coding gain offered by

these codes can be used to save bandwidth or reduce power requirements in the link budget.

25. **Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Uebayashi in view of Kondo and Demjanenko as applied to claim 21 above, and further in view of Leung et al (US 7, 124, 193), hereinafter referred to as Leung.

Leung teaches link adaptation and power control in a wireless packet network.

The combination of Uebayashi, Kondo and Demjanenko, teaches all aspects of the claimed invention as set forth in the rejections of claim 21 but does not disclose a control unit, wherein the radio information block comprises four TDMA frames and occupies K slots per TDMA frame, wherein the radio information block size is equal to N=464.times.K.times.throughput bits, where the throughput is equal to the number of information bits per data symbol.

Leung discloses a control unit, wherein the radio information block comprises four TDMA frames and occupies K slots per TDMA frame, wherein the radio information block size is equal to N=464.times.K.times.throughput bits, where the throughput is equal to the number of information bits per data symbol. **(See Column 4:46-60)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Uebayashi's, Kondo's and Demjanenko's apparatus to incorporate a control unit, wherein the radio information block comprises four TDMA frames and occupies K slots per TDMA frame, wherein the radio information block size is equal to N=464.times.K.times.throughput bits, where the throughput is equal to the number of information bits per data symbol. The motivation

to use a radio information block comprising four TDMA frames that occupies K slots per TDMA frame is to implement the ubiquitous wireless packet network called EGPRS (Enhanced General Packet Radio Services) as stated in Leung's Column 1:38-40.

Response to Arguments

26. Applicant's arguments filed on 12 January 2007 have been fully considered but they are not persuasive.

27. In the Remarks, in the last two paragraphs of page 9, with respect to independent claims 1, 7, 14, and 18, Applicant argues Kondo nowhere teaches any comparison between two mobile stations requesting call admissions as claimed in the independent claims. Applicant further argues in the Remarks, in the 1st paragraph of page10, according to the teachings of Kondo the allocation of time slots to a new call is made independent of any other new call, let alone one requesting call admission.

Examiner respectfully disagrees with Applicant's conclusions. Applicant as stated in the Remarks on page 9 clearly agrees with the Examiner that Kondo teaches, "differentially allocating time-slots based upon whether the new call request is the low transmission speed communication or high transmission speed communication". Given this fact it is clear to the Examiner that Kondo's system has a built in comparison system wherein all mobiles that have a higher bandwidth requirement are preferentially granted system resources in the form of time slots over mobiles that have lower bandwidth requirements and therefore Kondo adequately teaches the limitations in question in the independent claims. Surely in Kondo's as well as in any wireless system simultaneous call requests can occur where one request is for a lower bandwidth

requirement and the other is for a higher bandwidth requirement and in these cases as in all other cases the mobile with higher bandwidth requirement is given a preferential grant of system resources in the form of time slots in greater quantity than allotted to the mobile with the lower bandwidth requirement.

Conclusion

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following US Patents are cited to show the state of the art with respect to high-speed data transmission in a digital mobile communication system using multi-slot mobiles:

US Patent (6, 016, 311) to Gilbert et al

US Patent (6, 148, 209) to Hamalainen et al

The following US Patent Application Publications are cited to show the state of the art with respect to modulation techniques used in wireless communications:

US Pub. No. (2005/0002468) to Walton et al

US Pub. No. (2005/0053030) to Zehavi

US Pub. No. (2005/0097424) to Golitschek et al

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Habte Mered whose telephone number is 571 272 6046. The examiner can normally be reached on Monday to Friday 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H. To can be reached on 571 272 7629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HM
03-25-2007

DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600